Jacob Englert M.S.

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Education

Emory University ***2020 – 2025***
Ph.D. in Biostatistics (Expected 05/2025)
M.S. in Biostatistics (2023)
GPA: 3.91 / 4.00

Northern Kentucky University ***2015 – 2019***
B.S. in Mathematics and Statistics
GPA: 4.00 / 4.00, *Summa Cum Laude*

Professional Experience

Lubrizol Atlanta, GA (Remote)
Data Scientist Intern *May 2024 – Aug 2024*

- Trained super learning ensembles to predict the hydrolytic stability of hydraulic fluids
- Developed a novel transfer learning approach for simultaneous modeling of multiple test outcomes in high-dimensional settings using variational Bayesian methods
- Created an R Shiny app to estimate dose-response curves for the cytotoxicity of beauty products

Medpace Cincinnati, OH
Biostatistics Intern → Data Analyst *Jan 2018 – Jul 2020*

- Designed interactive Spotfire dashboards used to monitor patient safety and compliance
- Conducted power simulations in R to study impacts of over-stratification in clinical trial designs
- Developed program templates for generating static and animated SAS graphics

Burkardt Consulting Center Highland Heights, KY
Student Statistical Consultant *Aug 2018 – May 2019*

- Advised academic and industrial clients on the formulation of research hypotheses, data collection, and statistical methodology

Federal Bureau of Investigation Cincinnati, OH
Intern *Jun 2017 – Dec 2017*

- Assisted cybercrimes squad with investigations by identifying statistical anomalies in case data

Skills

Programming R, SAS, C++ (Rcpp), SQL, Python, Mathematica, LaTeX
Tools Git, High Performance Computing (HPC), Spotfire, Tableau, JMP, ArcGIS, MS Office
Certifications SAS Certified Base Programmer for SAS 9

Publications

1. **Englert, J. R.**, S. T. Ebelt, and H. H. Chang (2025). "Estimating Heterogeneous Exposure Effects in the Case-Crossover Design using BART". *Journal of the American Statistical Association*. In press. doi: 10.1080/01621459.2025.2460231.

Collaborative Publications

1. Song, M.-K. *et al.* (2025). "Implementation of An Advance Care Planning Intervention in Dialysis Clinics". *American Journal of Kidney Diseases*. In press. doi: 10.1053/j.ajkd.2024.12.003.
2. Song, M.-K. *et al.* (2024). "Effectiveness of an Advance Care Planning Intervention in Adults Receiving Dialysis and Their Families: A Cluster Randomized Clinical Trial". *JAMA Network Open* 7(1), e2351511. doi: 10.1001/jamanetworkopen.2023.51511.

Submitted Manuscripts

1. **Englert, J. R.**, S. T. Ebelt, and H. H. Chang. "Modeling Joint Health Effects of Environmental Exposure Mixtures with Bayesian Additive Regression Trees". arXiv: 2411.09025.

Research Experience

Emory University — Atlanta, GA

Ph.D. Candidate (Dissertation) — *Aug 2022 – Present*

Title: Bayesian Tree-Based Methods for Environmental Health Research
Advisor: Dr. Howard Chang
Description: Extends the Bayesian additive regression trees (BART) framework to

- Estimating heterogeneous heat wave effects for Alzheimer's disease patients,
- Smooth exposure-risk surface estimation for air pollution mixtures and asthma, and
- Spatial quantile G-computation for estimating effects of air pollution on birthweight.

Research Assistant — *Dec 2021 – May 2024*

Advisors: Dr. Amita Manatunga and Dr. Mi-Kyung Song
Description: Used generalized linear mixed models to assess the efficacy of an intervention to improve decision making confidence and post-bereavement outcomes for patients with end-stage renal disease and their surrogates.

Research Assistant — *May 2021 – Dec 2021*

Advisor: Dr. Lance Waller
Description: Investigated the ability of sequentially layered spatial smoothing and spatial cluster detection techniques to identify hot spots for opioid overdoses in Georgia.

Northern Kentucky University — Highland Heights, KY

Undergraduate Research Assistant — *Jan 2018 – May 2019*

Advisor: Dr. Andrew Long
Description: Collaborated with Togolese meteorologists to estimate long-term trends and seasonality in temperature time series data using singular spectrum analysis.

Teaching Experience

Emory University — Atlanta, GA

Teaching Assistant

QTM 100 - Introduction to Statistical Inference	*Spring 2024*
EPI 590R - R Bootcamp for Epidemiology	*Fall 2023*
BIOS 509 - Applied Linear Models	*Spring 2022, Spring 2023*
BIOS 525 - Longitudinal and Multi-Level Data Analysis	*Fall 2022*
INFO 530 - Geographical Information Systems	*Spring 2021, Fall 2021*

Northern Kentucky University — Highland Heights, KY

Teaching Assistant

STA 205 - Introduction to Statistical Methods	*Spring 2016 – Fall 2018*

Awards & Honors

Michael Lynn Award in Collaborative Biostatistics, Emory University	*2024*
First Year Qualifying Exam Top Performer, Emory University	*2021*
Laney Graduate School Fellowship, Emory University	*2020*
Outstanding Senior in Statistics, Northern Kentucky University	*2019*
Outstanding Senior in Mathematics, Northern Kentucky University	*2019*
Outstanding Student Writing Award, Northern Kentucky University	*2016*

Service

HERCULES Exposome Research Center, Data Science Fellow	*2024*
John O'Bryan Mathematics Competition, Scorekeeper	*2017 – 2018*
Student Government Association at Northern Kentucky University, Justice	*2016 – 2017*

Membership

American Statistical Association

Eastern North American Region International Biometric Society

International Society of Environmental Epidemiology